

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F.
Larsen

January 1949

Test 427: Massey-Harris Model 44K STD

Tractor Museum

University of Nebraska-Lincoln, TractorMuseumArchives@unl.edu

Follow this and additional works at: <https://digitalcommons.unl.edu/tractormuseumlit>



Part of the [Applied Mechanics Commons](#)

Museum, Tractor, "Test 427: Massey-Harris Model 44K STD" (1949). *Nebraska Tractor Tests*. 995.
<https://digitalcommons.unl.edu/tractormuseumlit/995>

This Article is brought to you for free and open access by the Tractor Test and Power Museum, The Lester F. Larsen at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Nebraska Tractor Tests by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

BELT HORSE POWER TESTS

H. P.	Crank shaft speed R.P.M.	Fuel Consumption			Water used Gal. per hour	Temp. Deg. F.		Barometer Inches of Mercury
		Gal. per hour	H.P. hr. per gal.	Lb. per H.P. hour		Cooling med.	Air	
TEST B—100% MAXIMUM LOAD—TWO HOURS								
38.11	1350	3.774	10.10	0.662	0.00	171	58	28.843
TEST C—OPERATING MAXIMUM LOAD—ONE HOUR								
35.66	1349	3.156	11.30	0.592	0.00	179	69	28.863
*TEST D—ONE HOUR								
33.64	1351	3.007	11.19	0.598	0.00	177	74	28.865
TEST E—VARYING LOAD—TWO HOURS (20 minute runs last line average)								
33.72	1352	3.023	11.15	0.600	- - -	180	75	- - - -
1.50	1505	1.211	1.24	5.400	- - -	151	76	- - - -
17.68	1420	1.974	8.96	0.747	- - -	174	78	- - - -
34.38	1308	3.144	10.94	0.612	- - -	196	79	- - - -
9.26	1483	1.628	5.69	1.176	- - -	142	79	- - - -
25.17	1403	2.512	10.42	0.642	- - -	140	80	- - - -
20.45	1412	2.249	9.09	0.735	0.00	164	78	28.875

DRAWBAR HORSE POWER TESTS

H.P.	Draw bar pull Lbs.	Speed miles per hr.	Crank shaft speed R.P.M.	Slip of drive wheels %	Fuel Consumption			Water used Gal. per hr.	Temp. Deg. F.		Barometer Inches of Mercury
					Gal. per hour	Hp.-hr. per Gal.	Lb. per Hp.-hr.		Cooling med.	Air	
TEST F—100% MAXIMUM LOAD— 3rd GEAR											
35.28	3122	4.24	1352	5.81	Not Recorded			174	70	28.920	
TEST G—OPERATING MAXIMUM LOAD											
23.89	4692	1.91	1353	15.01	Not Recorded			165	72	28.920	
33.19	4031	3.09	1347	8.46	" "			170	71	28.917	
34.02	3013	4.23	1349	5.62	" "			172	68	28.920	
33.08	2215	5.60	1350	4.17	" "			170	70	28.922	
29.25	886	12.38	1354	1.22	" "			173	71	28.925	
*TEST H—TEN HOURS— 3rd GEAR											
27.70	2420	4.29	1350	4.40	2.658	10.42	0.642	0.00	178	73	28.791
TEST J—OPERATING MAXIMUM LOAD— 3rd GEAR											
29.63	2855	3.89	1349	14.85	Not Recorded			181	71	28.550	

TIRES, WHEELS and WEIGHT

	Tests F, G & H		Test J
Rear Wheel: Type and Weight (each)	Cast Iron		Cast Iron
Liquid Ballast	560 lb		None
Added Cast Iron	560 lb		None
Rear Tires: No., Size and Ply	2 13-30 6 ply		2 13-30 6 ply
Type of Tread	Champion Ground Grip		Champion Ground Grip
Make	Firestone		Firestone
Air Pressure	14 lb		12 lb
Front Wheel: Type and Weight (each)	Pressed Steel		Pressed Steel
Liquid Ballast	None		None
Added Cast Iron	None		None
Front Tires: No., Size and Ply	2 6.00-16 4 ply		2 6.00-16 4 ply
Type of Tread	Guide Grip		Guide Grip
Make	Firestone		Firestone
Air Pressure	28 lb		28 lb
Height of Drawbar	19 1/2 inches		20 inches
Static Weight: Rear End	5392 lb		3152 lb
Front End	1586 lb		1586 lb
Total Weight as Tested (With operator)	7153 lb		4913 lb

* Formerly called RATED LOAD, see horsepower summary.

FUEL, OIL and TIME Fuel: Tractor fuel, octane 41.5 (octane rating taken from oil company's typical inspection data); weight per gallon 6.688 lb. Oil: SAE 10-10W; to motor 1.729 gal; drained from motor 1.594 gal. Total time motor was operated 45 1/2 hours.

SPECIFICATIONS Type standard; Serial No. 44KS4370; Drive enclosed gear. Tread Width: Rear 54"; Front 49". Wheel Base 80". Hydraulic Lift Control not available. Advertised speeds, mph: First 2.21; Second 3.33; Third 4.43; Fourth 5.75; Fifth 12.28; Reverse 2.89. Belt Pulley: Diam 13 1/2"; Face 6 1/4"; RPM 863; Belt Speed 3050 fpm. Clutch: Make Borg & Beck; Type dry disc; Operated by foot pedal. Seat Monroe. Brakes: Make own; Type internal expanding band; Location differential shaft; Gear Reduction (brake drum to rear wheel) 5.077:1; Operated by two foot pedals; Locked by latches; Equalization none.

ENGINE Make own; Serial No. MHA260K25 025; Type 4 cylinder vertical; Head I; Mounting crankshaft lengthwise; Lubrication pressure; Bore and Stroke 3 7/8" x 5 1/2"; Rated RPM 1350; Compression Ratio 4.65:1. Port Diameter Valves: Inlet 1 5/16"; Exhaust 1 5/16". Governor: Make own; Type centrifugal, variable speed. Carburetor: Make Zenith; Model 62 A₁ 10; Size 1 1/4". Starter Auto-Lite. Generator Auto-Lite. Distributor and Coil Auto-Lite. Battery Exide. Air Cleaner: Make Donaldson; Type oil washed wire screen. Oil Filter: Make Purolator; Type replaceable paper element. Cooling medium temperature control: Thermostat and shutter.

REPAIRS AND ADJUSTMENTS No repairs or adjustments.

REMARKS All test results were determined from observed data and without allowances, additions, or deductions. Tests B and F were made with carburetor set for 100% maximum belt horsepower and data from these tests were used in determining the horsepower to be developed in tests D and H, respectively. Tests C, D, E, G, H and J were made with an operating setting of the carburetor (selected by the manufacturer) of 94.5% of maximum belt horsepower.

HORSEPOWER SUMMARY

	Drawbar	Belt
1. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	36.85	39.45
2. Observed maximum horsepower (tests F & B)	35.28	38.11
3. Seventy-five per cent of calculated maximum drawbar horsepower and eighty-five per cent of calculated maximum belt horsepower (formerly ASAE and SAE ratings)	27.64	33.53

We, the undersigned, certify that this is a true and correct report of official tractor test No. 427.

L. F. Larsen
Engineer in Charge

C. W. Smith
F. D. Yung
L. W. Hurlbut
Board of Tractor
Test Engineers